introduction of the proactive prevention approach. A pressure ulcer was defined as Grade2 or above. Pearson's chi-squared test for comparison between groups and Fisher's exact test were applied to assess significance.

Results [See Table] In period1, there were 161 admissions and 9 Grade2 pressure ulcers from 666 NIV bed-days (ulceration rate=9/666); in period2 there were 134 admissions and 0 pressure ulcers from 718 NIV bed-days (ulceration rate=0/718). There was a statistically significant reduction in Grade2 Pressure ulceration rates (Pearson's chi-square statistic=7.786; p-value=0.0013 in period2 compared to period1).

Conclusions Application of an early prophylactic pressure-relieving hydrocolloid nasal dressing reduces the chance of developing Grade2 pressure ulcers in patients using NIV acutely. Further longitudinal studies including data on a preventative approach towards NIV-related nasal bridge pressure ulceration are needed to confirm the utility of this approach.

Abstract P125 Table 1

	30/10/14 – 29/10/15 12mth period – BEFORE preventative strategy introduced (PERIOD1)	Commencement date of application of proactive preventative hydrocolloid nasal dressings in acute NIV set ups: 30/10/15	30/10/15-29/10/16 12mth period – AFTER preventative strategy introduced (PERIOD2)
NIV Admissions	161		134
Total NIV duration (NIV bed-days)	666		718
Grade2 Nasal bridge pressure ulcers	9		0

The Pearson's chi-square statistic is 7.786 with a p-value of 0.005. Therefore there were significantly fewer Grade2 Nasal bridge pressure ulcers for Period 2. Since the number of Grade2 Nasal bridge pressure ulcers is less than 5 in one of the cells, a Fisher's exact test was performed, which yields a p-value of 0.0013 indicating highly significantly fewer Grade2 Nasal bridge pressure ulcers for the Period2.

P126 WEANING OUTCOMES OF MECHANICALLY VENTILATED SPINAL CORD INJURED PERSONS WITH ACUTE TETRAPLEGIA ADMITTED TO A REGIONAL UK CENTRE OVER A 10 YEAR PERIOD

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Introduction The occurrence of Spinal Cord Injury (SCI) is often complicated by the need for assisted ventilation. This study charts the weaning outcomes of mechanically ventilated SCI subjects admitted over a 10 year period to a regional Spinal Injuries unit.

Methodology Acute SCI subjects with Tetraplegia admitted from April 2007–2017 to the Northwest Regional Spinal Injuries Centre (NWRISIC) were identified. Only those presenting

with all 3 criteria: a) admission injury level C1–C6 b) admission ASIA score A–C and c) need for mechanical ventilation on arrival to the NWRISIC were included in the final analysis.

Results The cohort consisted of 84 subjects (mean age 57 (SD 18) years; 76% male; 81 surviving to discharge). On admission, the level of injury was C1–3 in 28% (C1–3 ASIA A 20%; C1–3 ASIA B 2%; C1–3 ASIA C 6%) and C4–6 in 72% (C4–6 ASIA A 38%; C4–6 ASIA B 17%; C4–6 ASIA C 17%). On admission, 86% (72/84) were tracheostomy ventilated 24 hours/day, 12% (10/84) tracheostomy ventilated at night only and 2% (2/84) using NIV. By discharge, 13% (11/81) were tracheostomy ventilated 24 hours/day (including 2 Phrenic nerve paced), 13% (11/81) tracheostomy ventilated at night only, 7% (6/81) prescribed nocturnal NIV with 65% (53/81) breathing independently. Thus, when taking the entire cohort, 63% (53/81) achieved complete Ventilatory liberation, 12% (10/81) weaned to nocturnal tracheostomy ventilation only and 6% (5/81) were weaned to NIV whilst no further weaning was possible in 16% (13/81). The ability to breathe independently by discharge was found to correlate with level of injury on admission (CC 0.39; p<0.001), level of injury on discharge (CC 0.47; p<0.001) and non-significant trend with improvement in neurological function during admission (CC 0.21; p=0.06) but not age or gender.

Conclusion Our data demonstrates that in a cohort of consecutive SCI patients requiring mechanical ventilation on admission to a regional Spinal injuries unit, weaning from mechanical ventilation was possible in 84% of subjects with 63% being liberated completely from Ventilatory support by discharge. The use of NIV in the SCI cohort appears to be an emergent strategy during the weaning process.

P127 WHAT IS THE OPTIMAL MODE OF NON-INTRAVENOUS BRONCHODILATORS IN ADULT, MECHANICALLY VENTILATED PATIENTS ON THE INTENSIVE CARE UNIT? A SYSTEMATIC REVIEW OF THE LITERATURE

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Background Acute bronchospasm is common amongst mechanically ventilated patients, associated with significant morbidity and mortality and constitutes a substantial burden on already austere limited resources. The three axial methods by which (non-intravenous) bronchodilators can be administered include nebulisers, metered dose inhalers (MDI) and more recently, direct endotracheal liquid boluses (ELB). Previous studies have failed to demonstrate the advantage of one mode of delivery versus the other and there are no systematic reviews directly comparing all three therapies.

Aims The study sought to ascertain the efficacy of nebulisers, MDI and ELB for the management of acute bronchospasm in adult, mechanically ventilated patients.

Methods By means of a prospective protocol, a systematic review was undertaken to compare randomised controlled trials (RCTs) exploiting both the GRADE and Cochrane methodology. We intended to assess the quality and strength of the evidence, risk of bias, the magnitude of the effect size, and to meta-analyse the main outcome measures: peak inspiratory pressure – PIP and airway resistance – R_{aw}.